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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,859	09/30/2003	Kelly Statham	0153/90550	1877
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/675,859

Applicant(s)

STATHAM ET AL.

Examiner

LUN-SEE LAO

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date 08-04-2008
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Introduction

1. This action is response to the amendment filed on 06-20-2008. Claims 1, 17 and 19 have been amended. Claims 1-20 are pending.

Drawings

2. The drawings were received on 06-20-2008. These drawings are accepted.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recited "transmitting a tone burst coded with a frame of data from the transmitter to the receiver and storing said frame of data therein, said frame of data containing two or more characteristics regarding said transmitter disposed within respective predetermined locations of the repeating frame". However, the specification does not clearly disclose the "said frame of data containing two or more characteristics regarding said transmitter disposed within respective predetermined

locations of the repeating frame" will be performed. The examiner can not find any support in the cited area as indicated by the applicant such as "The use of a repeating frame of data is discussed in paragraph [0035] of the specification. The two or more characteristics is discussed in paragraph [0057] and is shown in the repeating frame of FIGs. 9A-C of the specification" which the applicant points out. However, the examiner find neither specification describing "repeating frame" nor in figs 9A-C. It is not supported in the specification nor in any claim originary presented.

5. Claims 17 and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 17 recited "wireless transmitter that wirelessly transmits an audio signal from the microphone mixed with a pilot tone burst and a CPU that digitally encodes the pilot tone with a frame of data containing a plurality of status indicators of the wireless microphone provided by the CPU, said plurality of status indicators disposed within respective predetermined locations of the frame". However, the specification does not clearly disclose the "transmits an audio signal from the microphone mixed with a pilot tone burst and a CPU that digitally encodes the pilot tone with a frame of data containing a plurality of status indicators of the wireless microphone provided by the CPU" will be performed. It is not supported in the specification and in any figures nor in any claim originary presented.

Claim 19, it is essentially similar to claim 17 and rejected for the reason stated above apropos to claim 17.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-5 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (US PAT. 6,954,538) in view of Magee et al. (US PAT. 7,349,667).

Consider claim 1 as best understood with regards to the 112, first problem mentioned above, Shiraishi teaches a method for remotely controlling (see fig.4) a set of functions related to a wireless audio system from a remote central control, said method comprising the steps of:

providing an audio system (fig.4) that includes a transmitter (104,304) and a receiver (105,305);

detecting an audio signal via an acoustic transducer located within the transmitter (see fig. 4 (300));

transmitting data from the transmitter (304) to the receiver (105) of said audio system (see fig.4) and storing said data therein, said data including the detected audio signal two or more characteristics regarding said transmitter.

establishing a link between the receiver of said wireless audio system (fig.4) and a central control for remotely controlling the set of functions through a communication network(reads on 300 in fig. 4 and 100 with speakers network (201-206) and see col. 7 line 44-col. 8 line 18);

determining (see fig.3) whether or not any problems exist (by test tone) by monitoring said data stored in said receiver from said central control; communicating from said remote control to said audio system appropriate remedial actions to alleviate any of said problems (see col. 6 line 13-col. 7 line 42); but Shiraishi does not explicitly teach transmitting a tone burst coded with a frame of data from the transmitter to the receiver and storing said frame of data therein, said frame of data containing two or more characteristics regarding said transmitter disposed within respective predetermined locations of the repeating frame.

However, Magee teaches transmitting a tone burst coded with a frame of data from the transmitter to the receiver and storing said frame of data therein, said frame of data containing two or more characteristics regarding said transmitter disposed within respective predetermined locations of the repeating frame (see figs 2, 3 and 6 and col. 11 line 25-col. 12 line 59 and col.7 line 25-col. 8 line 40).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Magee into Shiraishi so that greatly improves the quality of wireless networks in terms of reliability, range/coverage, versatility, and flexibility.

Consider claims 2-5 Shiraishi teaches that the audio system comprises a wireless audio system (see fig.4 and see col. 7 line 67); and the wireless audio system comprises a wireless microphone system (300, (306) and see col. 7 line 44-67); and the transmitter comprises a handheld (see fig.6 and see col. 8 lines 33-55); and the transmitter comprises a body pack (see fig.6 and see col. 8 lines 33-55).

Consider claims 7 and 9, Shiraishi teaches that the data comprises data regarding characteristics of said transmitter or said receiver that can be monitored but not controlled (see col. 7 line 15-42); and the data comprises data regarding characteristics of said transmitter or said receiver that can be monitored and controlled (see col. 7 line 44-col.8 line 18).

Consider claim 8 Shirashi as modified by Magee teaches that said data is selected from a group consisting of: receiver internet protocol address, receiver link address, receiver RF level, receiver AF level (Magee, see fig. 6 and col. 11 line 55-67).

Consider claim 10 Shirashi as modified by Magge teaches that said data is selected from a group consisting of: receiver name, receiver frequency, receiver squelch level, receiver meter hold, receiver antenna power, receiver mute, default display on receiver state, receiver lock condition, receiver load present, and receiver save preset(Magee, see fig. 6 and col. 11 line 55- col.12 line 59).

Consider claim 12 it is essentially similar to claim 10 and is rejected for the reason stated above apropos to claim 10.

Consider claim 11 Shiraishi teaches that the communicating step includes the step of transmitting replacement data to said receiver that is implemented by said receiver (see fig.4 and col. 7 line 44-col. 8 line 18).

8. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (US PAT. 6,400,935) in view of Sivaprakasam (US PAT. US 6,785,513).

Consider claim 17 as best understood with regards to the 112, first problem mentioned above, Williams teaches a wireless microphone system comprising (see fig. 2):

- a microphone (66);

- a wireless transmitter (10) that wirelessly transmits an audio signal from the microphone (66) mixed with a pilot tone (64); and

- a CPU (52 reads on the microprocessor) that digitally encodes the pilot tone with a frame of data containing a plurality of status indicators of the wireless microphone provided by the CPU, said plurality of status indicators disposed within respective predetermined locations of the frame (see fig.2 and col.7 line 33-col.8 line 67); but Williams does not explicitly teach a pilot tone burst.

However, Sivaprakasam teaches a pilot tone burst; and a CPU that digitally encodes the pilot tone with a frame of data containing a plurality of status indicators of the wireless microphone provided by the CPU, said plurality of status indicators disposed within respective predetermined locations of the frame (see figs. 1A, 1B, 12 and col. 4 line 17-35 and col.11 line 34-col. 12 line 49).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Sivaprakasam into Williams so that greatly improves the quality of wireless networks in terms of reliability, range/coverage, versatility, and flexibility.

Consider claim 18 Williams teaches a wireless receiver located in the surrounding area of the wireless microphone that receives the transmitted audio signal and plurality of status indicators from the wireless microphone; a central control that remotely controls a set of functions of the wireless microphone system; and a communications link established between the wireless receiver and central controller through a public communication network (see fig.2 and col.7 line 33-col.8 line 67).

Consider claim 19 as best understood with regards to the 112, first problem mentioned above, Williams teaches a wireless microphone system comprising:

a handheld wireless microphone or body pack including an audio management block (see fig.2),

a CPU (reads on microprocessor (52)), a modulator and an output antenna wherein the audio management block changes an audio signal into an electric signal, the CPU (52) provides coded information about the handheld wireless microphone (66) or body pack and the modulator modulates the changed audio signal by mixing (68) the changed audio signal with a pilot tone (64) and where the CPU digitally modules the pilot tone(64) with the coded information to provide a data where the coded information occupies respective predetermined locations within the data for wireless transmission

through the output antenna(see fig.2 and col.7 line 33-col.8 line 67); but Williams does not explicitly teach a pilot tone burst.

However, Sivaprakasam teaches a pilot tone burst and where the CPU digitally modules the pilot tone with the coded information to provide a data frame where the coded information occupies respective predetermined locations within the frame for wireless transmission through the output antenna (see figs. 1A, 1B, 12 and col. 4 line 17-35 and col.11 line 34-col. 12 line 49).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Sivaprakasam into Williams so that greatly improves the quality of wireless networks in terms of reliability, range/coverage, versatility, and flexibility.

On the other hand, Williams as modified by Sivaprakasam teaches the CPU provides coded information about the handheld wireless microphone or body pack and the modulator modulates the changed audio signal by mixing the changed audio signal with a pilot tone burst and where the CPU digitally modules the pilot tone with the coded information to provide a data frame where the coded information occupies respective predetermined locations within the frame for wireless transmission through the output antenna(see fig.2 and col.7 line 33-col.8 line 67).

Consider claim 20 Williams teaches the wireless microphone system further comprising:

a wireless receiver located in the surrounding area of the handheld wireless microphone or body pack that receives the transmitted audio signal and plurality of

status indicators from the wireless microphone(see fig.2 (66)); a central control that remotely controls a set of functions of the wireless microphone system; and a communications link established between the wireless receiver and central controller through a public communication network(see figs.1-2 and col.7 line 33-col.8 line 67).

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (US PAT. 6,954,538) as modified by Magee et al. (US PAT. 7,349,667) as applied to claim 1 above, and further in view of Agashe (US PAT. US 2003/0190924).

Consider claim 6 Shiraishi as modified by Magee fails to teach that the receiver comprises a diversity receiver.

However, Agashe teaches teach that the receiver comprises a diversity receiver (see page 1 [0006]).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Agashe into Shiraishi and Magee so that more different kinds of data could have been received by the receiver.

10. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (US PAT. 6,954,538) as modified by Magee et al. (US PAT. 7,349,667) as applied to claim 1 above, and further in view of Casais (US PAT. 6,288,641).

Consider claim 13 Shiraishi as modified by Magee does not explicitly teach that the receiver of said audio system comprises a master receiver and two or more slave

receivers that are operatively coupled to said master receiver, each of said slave receivers including a slave transmitter associated therewith.

However, Casais teaches that the receiver of said audio system (see fig. 1 (10)) comprises a master receiver (52) and two or more slave receivers (54) that are operatively coupled to said master receiver (52), each of said slave receivers (12) including a slave transmitter associated therewith (see col. 4 line 40- col. 6 line 48).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Casais into the teaching of Shiraishi and Magee so that increased flexibility of remote monitoring system could be provided to the user.

Consider claim 14 casais teaches that the transmitting step (see fig.1 (10)) comprises the step of transmitting data from the slave transmitter (12) associated with one of said slave receivers to said master receiver (52), and transmitting said data from said master receiver to said central control (42 and see col. 4 line 40- col. 6 line 48).

11. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (US PAT. 6,954,538) as modified by Magee et al. (US PAT. 7,349,667) as applied to claim 1 above, and further in view of Chang (US PAT. 6,337,913).

Consider claim 15 Shirashi as modified Magee teaches that the said transmitting step (see fig.4) comprises the steps of combining data associated with said transmitter with a tone signal (fig.3), mixing said combined data/ tone signal with an audio signal, and transmitting said combined data/ tone/audio signal to said receiver (see col. 6 line

13-col. 7 line 42); but Shirashi does not explicitly teach that the said transmitting step comprises the steps of combining data associated with said transmitter with a pilot tone signal, mixing said combined data/pilot tone signal with an audio signal, and transmitting said combined data/pilot tone/audio signal to said receiver.

However, Chang teaches that the said transmitting step (see fig.4) comprises the steps of combining data associated with said transmitter with a pilot tone signal (33), mixing said combined data/pilot tone signal with an audio signal, and transmitting said combined data/pilot tone/audio signal to said receiver (see col. 3 line 63-col. 4 line 12).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Chang into the teaching of Shirashi and Magee to achieve a high receiving performance.

Consider claim 15 Chang teaches that the pilot tone signal is at approximately 32 kHz (see abstract).

Response to Arguments

12. Applicant's arguments with respect to claim 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argued that Claim 1 has been rejected under 35 U.S.C. §112, second paragraph. In particular, the Office Action asserts that the term "repeating frame" is not clearly supported. In response, the term has been deleted (see the remarks page 8 2nd paragraph).

The examiner disagrees. The term "repeating frame" is still recited in claim 1 (see claim 1, at line 10); therefore the first 112 rejection is maintained for claim 1.

Applicant further argued that Williams does not teach of a digitally encoded pilot tone (see the remarks page 10, 3rd paragraph).

The examiner disagrees. Williams teaches a CPU (52 reads on the microprocessor) that digitally encodes the pilot tone with a frame of data containing a plurality of status indicators of the wireless microphone provided by the CPU (see fig.2 and col.7 line 33-col.8 line 67); However, Col. 9 line 34-43 discuss and FIG. 2 clearly shows a CPU (52 reads on the microprocessor) that digitally encodes the pilot tone with a frame of data containing a plurality of status indicators of the wireless microphone provided by the CPU, said plurality of status indicators disposed within respective predetermined locations of the frame. Since the CPU(52 reads on the microprocessor) is shown. Therefore, it meets the limitation as cited in claim 17.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ito et al. (US PAT. 6,510,212) is cited to show other related method and apparatus for remote control of an audio source such as a wireless microphone system.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any response to this action should be mailed to:

Mail Stop ____ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents
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Alexandria, VA 22313-1450

Facsimile responses should be faxed to:
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Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

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supervisor, Vivian Chin, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao, Lun-See
/Lun-See Lao/
Examiner, Art Unit 2615
Patent Examiner
US Patent and Trademark Office
Knox
571-272-7501
Date 09-19-2008

/Vivian Chin/

Supervisory Patent Examiner, Art Unit 2615